

Receiving Report

Date: 12/5/16

Batch No: M121769

Supplier: THYOS

Dart P/O: 16883

Packing Slip: Yes ☒ No ☐
 Invoice: Yes ☐ No ☒
 Receipt: Cash ☐ Cr ☒

Release Note Attached: Yes ☒ No ☐ N/A ☐
 Waybill Attached: Yes ☐ No ☒
 Shipment Complete: Yes ☒ No ☐ N/A ☐
 QC6 Inspection OK 12/05/17 N/A ☐
 Work Order N/A ☒

Discrepancies

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments

Initials of receiver (if shipment OK) Level 12

Production/Admin:
 Date 12/5/16
 Received/Costing
 Initial

Location

Page 1 of 1

All amounts are calculated in domestic currency.

Grouped by Vendor ID

Total Received Quantity:	20.1100
Total Qty to Inspect (PO U/M):	0.00000
Total Reject Quantity:	0.00000
Total Receipt Value:	\$1,039.40
Total Balance Due Quantity:	0.00000

BILL OF LADING

No: PEC 767137

Ship From:
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 9057389033

Ship Date 14May12 at 13:23 From PFW
Probill
Via VIM TRANSFER
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7

Ship To: (1)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7
Tel: 613-632-9577 Fax: 613-632-1053

BILL OF LADING

1) Our Order PEC-447140- 1 Your PO # 16883
STAINLESS STEEL FLAT BAR 17-4 HRAP
1.25 X 2.00 X 155.000"

MTR

Heat Number	Tag No	Quantity	PCS	Wt LBS
254026	66508	12	11.0000 "	111

2) Our Order PEC-447140- 2 Your PO # 16883
STAINLESS STEEL FLAT BAR 303 CD
2.00 X 2.50 X 48.000"

MTR

Heat Number	Tag No	Quantity	PCS	Wt LBS
E230708	66510	4 FT	1	68

3) Our Order PEC-447140- 3 Your PO # 16883
ALUMINUM PLATE 7075T7351
2.50" THICK X 3.2500" X 48.0000"

MTR

Heat Number	Tag No	Quantity	PCS	Wt LBS
149791	66512	1.08 SPT	1	41

Handwritten signature
TOTAL:

Tags	PCS	LBS
3	3	220

MILL TEST REPORTS, PACKING SLIPS ARE TO SENT WITH
MATERIAL AND FAXED TO THE CUSTOMER PRIOR
TO SHIPPING.

ATTN: CHANTAL/LINDA

** ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER **
** REFERENCED ON IT **

TOTAL 2 BARS, 1 PKG G.W 221 LBS

Page: 1Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

Handwritten signature: Marc Brunet
Handwritten date: May 16/2012

B I L L O F L A D I N G

Ship From:
 THYSSENKRUPP MATERIALS NA
 2821 LANGSTAFF ROAD
 CONCORD, ONTARIO L4K 5C6
 Tel: 905 669 9444 Fax: 9057389033

No: PEC 767137
 Ship Date 14May12 at 13:23 From PFW
 Probill
 Via VIM TRANSFER
 FOB CONCORD
 Frt PREPAID
 Route 0- 0 Manifest
 Vhcle Trailer
 Slp STAN IVERS (905-532-1350)
 Sold To: (20115)
 DART AEROSPACE

Ship To: (1)
 DART AEROSPACE

B I L L O F L A D I N G

*CUSTOMER PICK-UP HRS AT THYSSENKRUPP MATERIALS NA
 CONCORD, ONT.* *** 9:00 AM TO 4:00 PM ***
 **** TEL. 800-926-2600 ****

 * WE STOCK STAINLESS STEEL *
 * PLEASE LET US QUOTE YOUR NEXT REQUIREMENT *

 ***PLEASE NOTE A \$25.00 ENERGY SURCHARGE WILL BE
 ADDED TO EVERY ORDER.***

Page: 2 Last

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
 RAPPORTÉES IMMÉDIATEMENT.

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
 MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

2

942749 - PO# P01561

MONTANSTAHL

special profiles in steel

Tel.: +41 (91) 6416-800
 Fax.: +41 (91) 6416-804
 email: info@montanstahl.com

007576

mill test certificate

MONTANSTAHL AG, Via Garretts 4, CH-6855 Stabio

Company
 STAINLESS STRUCTURALS LLC
 590 Beautyrest Avenue
 USA 32254 JACKSONVILLE

product
 Flat - ACD 2 x 2.5 Inch 11'-13'

mill test certificate according to

Customer specs

order n°

1857
(36762, 37746)size standards
PT 111net weight
4021 lbsgrade
303execution
AGD.grade standards
ASTMA582/A582M-AMS5640 type 1melting
EAF/AOD

bundles

942749, 943009, 943010, 943011

heat	C	Si	Mn	P	S	NI	Cr	Mo	Ti	Al	N	Cu	Pb	V	Co
E230708	0.055	0.58	1.78	0.028	0.268	8.60	17.52	0.27			0.014	0.59			0.10

lensile strength	yield strength		elongation	area reduction	hardness	impact test
Rm	Rp 0.2%	Rp 1%	A5	Z	HB	KV
93 ksi	63 ksi	61 ksi	50 %	65 %		

- We hereby confirm that the material certified in this document is conform to enclosed data sheet
- Material is produced in compliance with ROHS (2002/95/EC)
- Material free from Mercury and radioactive contamination

- Country of melt: Germany
- Country of manufacturing origin: Switzerland

This report is a copy of original mill certificate and verifies that the product meets the requirements as originally ordered by Energy Steel Products.

DATE: 12/7/11 VERIFIED BY: [Signature]

Trade Mark



date

04.10.2011

The works' inspector

Luca Cattaneo

From: Copper and Brass Sales

Cust: THYSSENKRUPP MATERIALS NA - ECAD Del: 2401840220

Part: PO: PEC-239000

Wgt: 67.920 LB Date: 05/03/2012



Montanstahl
CH - 6855 Stabio

PT111

DATA SHEET FOR ACD STAINLESS STEEL FLAT BARS IN GRADES 303, 304 / 304L AND 316 / 316L

Applicable standards		Rev.	Grade	Grade	Grade
			ASTM - 303 UNS - S30300	ASTM - 304 / 304L UNS - S30400 UNS - S30403	ASTM - 316 / 316L UNS - S31600 UNS - S31603
ASTM	A320/A320M	2003	X		X
	A484/A484M	2003a	X	X*	X
	A582/A582M	1995b	X		
	A276	2004		X	X
	A370-03a	2003	X	X	X
	A479/A479M	2004		X	X
AMS	5640T (type 1)	2003	X		
	2241N	2003	X		
	5653F	2002			X
	5648K	2002			X
	S 7720 A	1997			X
	5639H (type 1)	2002		X	
	5647H	2002		X	
	2248E	1993		X	X
	QQ S 763A	2003		X	X
ASME	SA479 + S2.1	1998		X	X

Chemical values

Grade	C ⁽¹⁾	Si ⁽¹⁾	Mn	N	P	S ⁽¹⁾	S ⁽²⁾	Cr	Mo	Cu	Cb	Ni	Al
303	0,15	1	2 ⁽¹⁾	8-10	17-19	0,6 ⁽¹⁾	0,35 ⁽²⁾	0,15	0,1	0,75	0,1	0,60	
304/304L	0,03	0,75	2 ⁽¹⁾	8-10,5	18-20	0,5 ⁽¹⁾	0,03	0,04	0,1	0,50	0,1		
316/316L	0,03	0,75	1-2	10-14	16-18	2-3	0,03	0,04	0,1	0,75	0,1		

⁽¹⁾ Maximum values

⁽²⁾ For thicknesses $\leq 0.25"$: $S_{min} = 0.20$

Mechanical values^{(A) (B)}

Grade	Thickness	TS ⁽¹⁾ [ksi]	TS ⁽¹⁾ [N/mm ²]	EL ⁽²⁾ [%]	RA ⁽³⁾ [%]	HB ⁽⁴⁾
303	Up to 0.5"	75	30	30	40	140-241
	Over 0.5"	75	30	35	50	223
304/304L	Up to 0.5"	90	45	30	40	140-223
	Over 0.5"	75	30	40	50	140-223
316/316L	Up to 0.5"	90	45	30	40	140-223
	Over 0.5"	75	30	30	40	140-223

⁽¹⁾ Maximum values; hardness is measured in centerline of width after removal of specific surface layer (see ASTM A320)

⁽²⁾ Minimum values

^(A) Cold drawn flat bars are not intentionally strain hardened but drawn to specific dimensional tolerances.

^(B) Cold drawn flat bars have a higher magnetic permeability than HRAP flat bars.

- Solution annealed at 1050°C and water quenched
- Intergranular corrosion test according to ASTM A262 practices A, C & E (where applicable)
- Micro and macro structure: OK
- Grain size per ASTM E112: 5-7
- No welding or weld repairs
- Material free of contamination from mercury or metals liquid at ambient temperature

GG 31/08/2004 SPECIFICA DI
VENDITA

\\mercuro\data\documente\gg\specifiche\vendita\ven_platti\trattati\inox - usa_pt111.doc

From: Copper and Brass Sales

Cust: THYSSENKRUPP MATERIALS NA - ECAD Del: 2401840220

Part: PO: PEC-239000

Wgt: 67.920 LB Date: 05/03/2012

James K. Baber

COPPER AND BRASS SALES**MATERIAL TYPE****STAINLESS STEEL****AISI SERIES****200 300 400****AND****PRECIPIT HARDENING GRADES****"WARNING"**

INHALATION OF FUMES, FRESHLY GENERATED BY THE WELDING OF STAINLESS STEEL CONTAINING ONE OR MORE OF THE FOLLOWING INGREDIENTS, ZINC, MAGNESIUM OR COPPER, ARE KNOWN TO CAUSE METAL FUME FEVER. INHALATION OF DUST OR FUME FROM STAINLESS STEEL CONTAINING ONE OR MORE OF THE FOLLOWING INGREDIENTS, ALUMINUM, IRON, MANGANESE, SELENIUM, OR TIN, HAS ALSO BEEN REPORTED TO CAUSE METAL FUME FEVER AND MAY CAUSE IRRITATION TO THE RESPIRATORY TRACT AND/OR AGGRAVATE PRE-EXISTING CONDITIONS. TARGET ORGAN IS PRIMARILY THE LUNG.

THIS PRODUCT MAY CONTAIN CHROMIUM, NICKEL OR COBALT. EXPOSURE TO DUST OR FUME MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE. UNDER HIGH TEMPERATURES, HEXAVALENT CHROMIUM MAY BE PRODUCED, IF IN THE INSOLUBLE FORM, IT IS A CONFIRMED HUMAN CARCINOGEN. THIS PRODUCT MAY ALSO CONTAIN NICKEL AND COBALT. INHALATION OF NICKEL OR COBALT DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT. NICKEL AND COBALT HAVE BEEN IDENTIFIED AS POTENTIAL HUMAN CARCINOGENS.

IF COATED WITH OIL, MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT. WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE STAINLESS STEEL MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

* If processing or recycling produces particulate, use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding, grinding, abrasive sawing, sanding and polishing. Any activity which abrades the surface of this material can generate airborne particulate. Use appropriate NIOSH approved respiratory protection (P95; P100 for lead with, quantitative fit testing required) if exposures exceed the permissible limits.

* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.

* Stainless steel, in solid form and as contained in finished products presents no special health risk.

* Sold for manufacturing purposes only. This product can be recycled; contact your sales representative.

The Occupational Safety and Health Administration require employers to provide training in the proper use of this product.

For additional information, call or write to Copper and Brass Sales, 22355 West Eleven Mile Road, Southfield, MI 48033, telephone 248-233-5600, or visit our web site @ www.copperandbrass.com.

Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.l.
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

Cliente / Besteller/Purchaser/Cliet
VALBRUNA STAINLESS INC.
2400 TAYLOR STREET WEST
46801-FORT WAYNE, IN 46801-US

Produttore: ACCIAIERIE VALBRUNA S.P.A.
Hersteller/Usine producer

Stato di fornitura: Descaled COND. A Hot rolled
Lieferzustand/Delivery state/Etat de livraison

Specifiche:
Anforderungen / Requirements / Exigences

VSI 2 630 A
AMS 5643 R S17400 A
ASTM A564 2010 S17400 A

(Q) SEC.II PT.A 2010 EDITION

Qualità: 630
Werkstoff/Grade/Nuance

Marca: V174
Markenbezeichnung/Brand/Nuance

Pos. nr. Pos. nr. Nr. de poste	Oggetto Gegenstand Product description Descript. du produit	Dimensioni - In Abmessungen Dimension	Tolleranza Toleranz Allowance Tolerance	Lunghezza - In Länge Length Longueur	Colata Schmelze Heat Coulée	Pezzi Stückzahl Pieces Pièces	Peso - LB Gewicht Weight Poids	Lotto nr. Losnr. Lot nr.
0200	Flat	2,0000 x 1,2500	484-09	150 / 159	254026		3.201	100402110

TEST ALLO STATO DI FORNITURA												
Test on delivery condition Prüfung auf lieferbarem Produkt test a l'etat de fourniture Prueba sobre el material así como entregado												
TEST	Provetta/Probestück Specimen/Éprouvette Long. diam. Ø spez. Brake Diam. Dicks. Weld Diam. Thickness Long. diam. spez. mm	°F	Pois. Saggio Probenge- wicht Exemplar 1)	Snervamento Bruchgrenze Yield Stress Limite élastique	Snervamento Bruchgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Rendite à traction	Allungamento Bruchdehnung Elongation Allongement		Strizione Bruchdehnung Reduction of area Striction		Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB
Valori richiesti 1 Anforderungen/Required values Valeurs demandées		min max		-	-	-	-	-	-	-	-	-
A	12,5	68	L									363
												341

TEST		min	max
A	Delta Ferrite		5,0
A	Grain size for ASTM E112		1,0 %
A	RATINGS FREQUENCY		5
A	RATINGS SEVERITY		0,05
			1,10
			0,05

Sample cond. H900											
Tipo Trattamento Wärmebehandlung Heat Treatment Traitement Thermique	Temperatura Temperatur Temperature	Raffreddamento Abkühlung Cooler Refroidissement	Permanenza Haltezeit Retention Mantien	Tipo Trattamento Wärmebehandlung Heat Treatment Traitement Thermique	Temperatura Temperatur Temperature	Raffreddamento Abkühlung Cooler Refroidissement	Permanenza Haltezeit Retention Mantien	Tipo Trattamento Wärmebehandlung Heat Treatment Traitement Thermique	Temperatura Temperatur Temperature	Raffreddamento Abkühlung Cooler Refroidissement	Permanenza Haltezeit Retention Mantien
Aging	800 °F	AIR	80 "								
TEST	Provetta/Probestück Specimen/Éprouvette Long. diam. Ø spez. Brake Diam. Dicks. Weld Diam. Thickness Long. diam. spez. mm	°F	Pois. Saggio Probenge- wicht Exemplar 1)	Snervamento Bruchgrenze Yield Stress Limite élastique Rp 0,2% k.s.l.	Snervamento Bruchgrenze Yield Stress Limite élastique	Resistenza Zugfestigkeit Tensile strength Rendite à traction Rm k.s.l.	Allungamento Bruchdehnung Elongation Allongement E 4d %	Strizione Bruchdehnung Reduction of area Striction RA %	Resilienza Kerbschlagarbeit Impact Value Resilience	Durezza Härte Hardness Dureté HB	
	Valori richiesti 1 Anforderungen/Required values Valeurs demandées	min max		170	-	190	-	10	-	40	-
B	12,5	68	L	184		201	16	54		429	

Mechanical properties according to ASTM A370.
Delta Ferrite according to AMS 2315.

1) L=longitudinale/längs, T=transversale/quer, Q=Tangenziale/tangentiel

Vicenza, 06/09/11 VOC008 (Mod. MCE2)	Il collaudatore di stabilimento / der Werkssachverständige / Works Inspector / L'agent d'usine M. Rizzotto	Pagina - 1 di 2
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From: Copper and Brass Sales

Cust: THYSSENKRUPP MATERIALS NA - ECAD Del: 2401840241

Part: PO: PEC-239000

Wgt: 111.000 LB Date: 05/03/2012

James K Baber

Acciaierie Valbruna S.p.A.



QUALITY MANAGEMENT SYSTEM
CERTIFIED BY LLOYD'S REGISTER

CERTIFICATO DI COLLAUDO
ABNAHMEPRUEFZEUGNIS
INSPECTION CERTIFICATE
CERTIFICAT DE RECEPTION
EN 10204 (2005) , 3.1

38100 VICENZA (Italia) - Viale della scienza, 25 z.l.
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

Clienti / Besteller/Purchaser/Client
VALBRUNA STAINLESS INC.
2400 TAYLOR STREET WEST
46801-FORT WAYNE, IN 46801-US

Produttore: **ACCIAIERIE VALBRUNA S.P.A.**
Hersteller/Item/Usine producer

Stato di fornitura: Descaled COND. A Hot rolled
Lieferzustand/Delivery state/Etat de livraison

Avviso di Spedizione: D-VI11027050
Lieferanzeige/Packing list/B.L.

Ordine nr: 29548 STOCK CAROL STR
Bestell/Your order/Commande

Tipo di Elaborazione: E+AOD
Erzeugungsmethode/Manufacturing process/Mode d'elaboration

Certificato nr: MEST094086/2011/
Prüfung/Test/Essai

Conferma ordine nr: E11001617
Werk/Our Order/Ref. nr.

Marchio di Fabbrica:
Zeichen des Lieferwerkes
Trade mark
Sigle de l'usine productrice



Punzone del Collaudatore:
Stempel des Werksachverständigen
Inspector's stamp/Pointon de l'essayeur



Analisi chimica

Chemische Zusammensetzung/Chemical Analysis/Analyse chimique

Colata / Heat Schmelze/Coulée	min - max 0,070	- 1,00	- 1,00	15,00 17,00	- 0,50	3,00 5,00	3,00 5,00	-	0,150 0,350	- 0,040	- 0,030	- 0,050	5°C 0,350	-	-
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	Nb+Ta	P %	S %	N %	Cb-Nb	Ta %	
254026	0,039	0,38	0,50	15,39	0,15	3,32	4,62	0,048	0,291	0,028	0,001	0,040	0,291	0,0002	

Annealing temperature 1904 deg. F for 1 h , air
cool to below 90F.

Micro and macro etch test: satisfactory.

Produced without class I-II Ozone depleting substances.

Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste
Die gestellten Anforderungen sind lt. Anlage erfüllt
The material has been furnished in accordance with the requirements
Le matériel a été trouvé conforme aux exigences

Controllo antimiscelazione: OK
Verwechslungsprüfung: spektralanalytisch durchgeführt
Antibeding testing performed: OK
Contrôle antimélange fait: r.s.s.

Controllo visivo e dimensionale; soddisfa le esigenze
Besichtigung und Ausmessung: ohne Beanstandung
Visual inspection and dimensional check/satisfactory
Contrôle visuel et dimensionnel: satisfaisant

Melted and manufactured in Italy No welding or weld repair Material free from Mercury contamination

We declare that the finished product is checked for radioactive contamination through Portal System when it leaves the production plant.

The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1, a., 4.3 by TUEV and LLOYD'S

Any act of tampering, modification, alteration, counterfeiting and/or falsification and/or any other action which modifies the contents of this test certificate shall constitute a violation of applicable civil and criminal laws. Acciaierie Valbruna shall protect its rights and interests before any competent court, authority and jurisdiction.

The supplied product conforms to requirements expressly requested by the purchaser and conforms to requirements specified by certified norms and standards. Should the product be used for more severe, critical and/or in any case different applications than those the material is generally intended for, any different and/or supplementary requirements shall be specifically demanded, at least, upon order of the Product by the Purchaser. Acciaierie Valbruna SpA shall not be responsible for any improper use of the Products.

mf
12/05/17

Vicenza, 06/09/11

VCC008
(Mod. MCE2)

Il collaudatore di stabilimento / der Werksachverständige / Works Inspector / L' agent d' usine

M. Rizzotto

Pagina - 2 di 2

From: Copper and Brass Sales

Cust: THYSSENKRUPP MATERIALS NA - ECAD Del: 2401840241

Part:

PO: PEC-239000

Wgt: 111.000LB

Date: 05/03/2012

James K. Baber



CERTIFIED TEST REPORT
Constellium Rolled Products Ravenswood, LLC

3

COPPER & BRASS SALES, INC.
5 STERLING DRIVE
WALLINGFORD CT
06492-2438

COPPER & BRASS SALES
P.O. BOX 5116
SOUTHFIELD MI
48086

COPPER&BR 266901 4776 INCLUSION SERIAL#: 20120213266901 PAGE 1 OF 3

CUSTOMER PURCHASE ORDER NO. & ITEM 5400105978				Constellium ORDER NO. 050-865517	
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.50000	WIDTH 60.500	LENGTH 144.500
ITEM ORDERED TOOLING PLT-DIST/GE SPEC PLATE, SAWED MILL					
CUSTOMER SPECIFICATION AMS-QQ-A-250/12					
PART NUMBER ALFLR00249		B/L NUMBER 266900		DATE SHIPPED 02/13/12	
WEIGHT SHIPPED 9,120		NO. OF PIECES 4		GOVT. CONTRACT NO.	

CERTIFICATION

"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."

Constellium Rolled Products Ravenswood, LLC
Rt 2 South, Century Road
P.O. BOX 68
RAVENSWOOD, WV 26164 USA

Rodney J. Felty
Rodney J. Felty - Laboratory Manager

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS	
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
149791	LT	2	70.3	71.2	58.6	59.5	12.0	12.0	40.8	41.2
All material contained in lot 149791 was cast and manufactured in the USA.										
ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS										
BSS-7055A TECH#8905.0 100%SONIC MINUS DEADZONE CLASS A										
ALSO CONFORMS TO AMS 4078G, ASTM-B209-07										
CHEM COMP	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
	SEE ACTUAL CHEMICAL COMPOSITION									
	ALUMINUM REMAINDER									
OTHERS		TITANIUM		ZINC		CHROMIUM		EACH MAX.		TOTAL MAX.
MIN.		MIN.		MIN.		MIN.		MIN.		MIN.
MAX.		MAX.		MAX.		MAX.		MAX.		MAX.

P-860-155D (06/11)

From: Copper and Brass Sales

Cust: THYSSENKRUPP MATERIALS NA - ECAD Del: 2401841422

Part: PO: PEC-239000

Wgt: 40.685 LB Date: 05/09/2012

James K Baber



CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

COPPER & BRASS SALES, INC.
5 STERLING DRIVE
WALLINGFORD CT

06492-2438

COPPER & BRASS SALES
P.O. BOX 5116
SOUTHFIELD MI

48086

COPPER&BR 266901 4776 INCLUSION SERIAL#: 20120213266901 PAGE 2 OF 3

CUSTOMER PURCHASE ORDER NO. & ITEM 5400105978				Constellium ORDER NO. 050-865517	
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.50000	WIDTH 60.500	LENGTH 144.500
ITEM ORDERED TOOLING PLT-DIST/GE SPEC PLATE, SAWED MILL					
CUSTOMER SPECIFICATION AMS-QQ-A-250/12					
PART NUMBER ALFLR00249		B/L NUMBER 266900		DATE SHIPPED 02/13/12	
WEIGHT SHIPPED 9,120		NO. OF PIECES 4		GOVT. CONTRACT NO.	

CERTIFICATION
"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."

Constellium Rolled Products Ravenswood, LLC
Rt 2 South, Century Road
P.O. BOX 68
RAVENSWOOD, WV 26164 USA

Rodney J. Felty
Rodney J. Felty - Laboratory Manager

COND % IACS

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		MIN		MAX								
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.											
149791	C		ACTUAL CHEMICAL COMPOSITION																
			SI= 0.06	FE= 0.12	CU= 1.47	MN= 0.04	MG= 2.60												
			CR= 0.19	ZN= 5.44	TI= 0.03	ZR= 0.01													
			OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER																
<div>only 12/05/17</div>																			
CHEM COMP	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.
	SEE ACTUAL CHEMICAL COMPOSITION																		
ALUMINUM REMAINDER																			

P-860-155D (06/11)

From: Copper and Brass Sales

Cust: THYSSENKRUPP MATERIALS NA - ECAD Del: 2401841422

Part: PO: PEC-239000

Wgt: 40.685 LB Date: 05/09/2012

James K Baber



CERTIFIED TEST REPORT


Constellium Rolled Products Ravenswood, LLC

COPPER & BRASS SALES, INC.
5 STERLING DRIVE
WALLINGFORD CT
06492-2438

COPPER & BRASS SALES
P.O. BOX 5116
SOUTHFIELD MI
48086

COPPER&BR 266901 4776 INCLUSION SERIAL#: 20120213266901 PAGE 3 OF 3

CUSTOMER PURCHASE ORDER NO. & ITEM 5400105978				Constellium ORDER NO. 050-865517		CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC Rt 2 South, Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA Rodney J. Felty - Laboratory Manager	
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.50000	WIDTH 60.500	LENGTH 144.500		
ITEM ORDERED TOOLING PLT-DIST/GE SPEC PLATE, SAWED MILL							
CUSTOMER SPECIFICATION AMS-QQ-A-250/12							
PART NUMBER ALFLR00249		B/L NUMBER 266900		DATE SHIPPED 02/13/12			
WEIGHT SHIPPED 9,120		NO. OF PIECES 4		GOVT. CONTRACT NO.			

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS											
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.										
THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.																				
CHEMISTRY BY OES: ARKSPARK																				
CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT.																				
WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399.																				
WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557.																				
Mark Paperwork: ALFLR00249																				
DUNS Number: 090570149; CAGE Code: 1YWL9																				
Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.																				
"END OF CERTIFICATION"																				
																				
CHEMICAL COMPOSITION	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS		
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.	
	SEE ACTUAL CHEMICAL COMPOSITION																			
ALUMINUM REMAINDER																				

P-860-155D (06/11)

From: Copper and Brass Sales

Cust: THYSSENKRUPP MATERIALS NA - ECAD Del: 2401841422

Part: PO: PEC-239000

Wgt: 40.685 LB Date: 05/09/2012

COPPER AND BRASS SALES**MATERIAL TYPE****ALUMINIUM ALLOYS****PRODUCT DESIGNATION****2014 2024 2224 2324 7050 7075 7150 7175 7475 ALUMEC 89 ALUMEC 99 QC-7****"WARNING"**

SMALL CHIPS,FINE TURNINGS AND DUST MAY IGNITE READILY.EXPLOSION POTENTIAL MAY BE PRESENT WHEN:DUST OR FINES ARE DISPERSED IN THE AIR; FINE, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH CERTAIN METAL OXIDES; OR,CHIPS,FINES,DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH WATER OR MOISTURE.KEEP AWAY FROM IGNITION SOURCE.USE EXPLOSION-PROOF VENTILATION.KEEP MATERIAL DRY.

THIS PRODUCT CONTAINS BERYLLIUM AND COPPER.INHALING BERYLLIUM DUST OR FUMES MAY CAUSE CHRONIC BERYLLIUM DISEASE (CBD),A SERIOUS CHRONIC LUNG DISEASE IN SOME INDIVIDUALS.BERYLLIUM IS A CANCER HAZARD;OVER TIME CBD AND CANCER CAN BE FATAL,TARGET ORGAN IS PRIMARILY THE LUNG.INHALING LARGE AMOUNTS OF COPPER,MAGNESIUM OXIDE,MANGANESE OXIDE,AND ZINC OXIDE FUMES OR DUST MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS.CHRONIC OVEREXPOSURE TO COPPER MAY CAUSE THICKENING OF THE SKIN;AND SKIN,TEETH,AND HAIR DISCOLORATION.CHRONIC OVEREXPOSURE TO MANGANESE DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE,SCARRING OF THE LUNGS AND REPRODUCTIVE HARM IN MALES.TARGET ORGAN IS PRIMARILY THE LUNG,BUT REPEATED HIGH EXPOSURE CAN ALSO AFFECT THE LIVER.CHRONIC OVEREXPOSURE TO IRON OXIDE DUST/FUME MAY CAUSE LUNG SIDEROSIS.CHRONIC OVEREXPOSURE TO SILICON DUST CAN CAUSE CHRONIC BRONCHITIS.OVEREXPOSURE TO AMORPHOUS SILICA CAN CAUSE DRYING OF THE MUCOUS MEMBRANES OF THE EYES,NOSE,AND THROAT.

THIS PRODUCT ALSO CONTAINS NICKEL AND CHROMIUM COMPOUNDS.INHALATION OF NICKEL DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT AND CAUSE NASAL AND/OR LUNG CANCER.NICKEL HAS BEEN IDENTIFIED AS A POTENTIAL HUMAN CARCINOGEN.EXPOSURE TO CHROMIUM DUST OR FUMES MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE.UNDER HIGH TEMPERATURES,HEXAVALENT CHROMIUM MAY BE PRODUCED,IF IN THE INSOLUBLE FORM,IT IS A CONFIRMED HUMAN CARCINOGEN.(CALIFORNIA PROPOSITION 65).

IF COATED WITH OIL,MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT.WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE ALUMINIUM/ALUMINIUM ALLOYS MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

* If processing or recycling produces particulate,use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding,grinding,abrasive sawing,sanding and polishing.Any activity which abrades the surface of this material can generate airborne particulate.Use appropriate NIOSH approved respiratory protection (P95; P100 for lead with, quantitative fit testing required) if exposures exceed the permissible limits.

* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.

* Aluminum, in solid form and as contained in finished products presents no special health risk.

* Sold for manufacturing purposes only.This product can be recycled; contact your sales representative.

For additional information, call or write to Copper and Brass Sales,22355 West Eleven Mile Road, Southfield, MI 48033,telephone 248-233-5600, or visit our web site @ www.copperandbrass.com.



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO16883

Purchase Order Date 5/02/12

PO Print Date 5/02/12

Page Number 1 of 5

Order From :

VC-COP001

THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Contact Name

Vendor Phone

905 669 9444

Vendor Fax

905 738 9033

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA



Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	M174B1.250X02.000 <i>000 316</i>	17-4 SS Bar 1.250 x 2.000	5/09/12 Yes	12.00 f	Yours ppd <i>12.11</i>	\$35.2500	\$423.00
Special Inst:			MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD TENDILE STRENGTH = 100 KSI MINIMUM ULTIMATE TENSILE STRENGTH = 150 KSI <i>4/24/12</i>				
2	M303B2.500X2.000 <i>000 316</i>	303 BAR 2.5" X 2"	5/09/12 Yes	4.00 f	Yours ppd <i>4/24/12</i>	\$83.7500	\$335.00
Special Inst:			MATERIAL: AISI 303 SS BAR AS PER ASTM A582 NOTE: 304/316 NOT ACCEPTABLE				
3	M304S18GA	304/316 .050 Sheet	5/09/12 Yes	96.00 sf	Yours ppd	\$3.9000	\$374.40

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr:

1

Change Date: 5/02/12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO16883**

Purchase Order Date 5/02/12

PO Print Date 5/02/12

Page Number 2 of 5

Order From :

VC-COP001

THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	905 669 9444	Requisition Nbr	
Vendor Fax	905 738 9033	Tax Resale Nbr	10127-2607
Vendor Account Nbr		Terms	Net 30
		Currency	CAD
		FOB	Destination-Collect

Special Inst: MATERIAL: AISI 304/316 SS SHEET
ANNEALED 2B FINISH
AS MIL-S-5059 OR AMS 5513 (304) OR
AMS 5524 (316)
OR ASTM A240 OR ASME SA240

4	M5052H32S.032	5052-H32 .032 Sheet	5/09/12	96.00	Yours ppd	\$1.0938	\$105.00
			Yes	sf			

Special Inst: MATERIAL: 5052-H32 ALUMINUM
SHEET AS PER
QQ-A-250/8 OR AMS-QQ-A-250/8 OR
AMS 4016
OR ASTM B209

5	M6061T6B0.500X10.000	6061-T6 Bar .500 x 10.00	5/09/12	48.00	Yours ppd	\$11.9800	\$575.04
			Yes	f			

Special Inst: MATERIAL: 6061-
T6/T651/T6510/6511T62 ALUMINUM BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8
OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR
AMS 4160 OR ASTM B211 OR ASTM
B221

6	M6061T6B0.750X02.000	6061-T6 Bar .750 x 2.00	5/09/12	12.00	Yours ppd	\$3.7583	\$45.10
			Yes	f			

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 1

Change Date: 5/02/12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO16883

Purchase Order Date 5/02/12

PO Print Date 5/02/12

Page Number 3 of 5

Order From :

VC-COP001

THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Contact Name

Vendor Phone

905 669 9444

Vendor Fax

905 738 9033

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Special Inst:

MATERIAL: 6061-T6/T651/T6510/6511T62 ALUMINUM BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8
OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR
AMS 4160 OR ASTM B211 OR ASTM
B221

QTY	Part Number	Description	Unit Price	Unit Weight	Unit Volume	Unit Length	Unit Area	Unit Weight	Unit Volume
7	M6061T6B1.000X02.000	6061-T6 Bar 1.00 x 2.00	5/09/12	48.00	Yours ppd	\$4.8500	\$232.80		

Yes

Special Inst:

MATERIAL: 6061-T6/T651/T6510/6511T62 ALUMINUM BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8
OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR
AMS 4160 OR ASTM B211 OR ASTM
B221

8	M6061T6B1.500X01.250	6061-T6 Bar 1.50 x 1.25	5/09/12	12.00	Yours ppd	\$4.4417	\$53.30		
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Yes

Special Inst:

MATERIAL: 6061-T6/T651/T6510/6511T62 ALUMINUM BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8
OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR
AMS 4160 OR ASTM B211 OR ASTM
B221

9	M6061T6B2.000X01.250	6061-T6 Bar 2.00 x 1.25	5/09/12	12.00	Yours ppd	\$6.1500	\$73.80		
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Yes

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr:

1

Change Date: 5/02/12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO16883

Purchase Order Date 5/02/12

PO Print Date 5/02/12

Page Number 4 of 5

Order From :

VC-COP001

THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Contact Name

Vendor Phone

905 669 9444

Vendor Fax

905 738 9033

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Special Inst:

MATERIAL: 6061-
T6/T651/T6510/6511/T62 ALUMINUM BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8
OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR
AMS 4160 OR ASTM B211 OR ASTM
B221

10 M6061T6B2.000X03.500

6061-T6 Bar 2.00 x 3.50

5/09/12

Yes

12.00

Yours ppd

\$17.2542

\$207.05

Special Inst:

MATERIAL: 6061-
T6/T651/T6510/6511/T62 ALUMINUM BAR
AS PER QQ-A-225/8 OR AMS-QQ-A-225/8
OR AMS 4117/4128/4115/4116
OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR
AMS 4160 OR ASTM B211 OR ASTM
B221

11 M6061T6H1.000

6061-T6 HexBar 1.00

5/09/12

Yes

12.00

Yours ppd

\$2.2000

\$26.40

Special Inst:

MATERIAL:6061-
T6/T651/T6510/T6511/T62 ALUMINUM
HEX BAR
SPEC: QQ-A-225/8 OR AMS-QQ-A-225/8
(OR AMS4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8(OR
AMS 4160) OR ASTM B211 OR ASTM
B221

12 M7075T73B2.500X03.25

7075-T73 Bar 2.50 x 3.25

5/09/12

Yes

4.00

Yours ppd

\$66.2500

\$265.00

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 1

Change Date: 5/02/12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO16883

Purchase Order Date 5/02/12

PO Print Date 5/02/12

Page Number 5 of 5

Order From :

VC-COP001

THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Contact Name

Vendor Phone 905 669 9444

Vendor Fax 905 738 9033

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Special Inst:

7075-T73 (OR 7075-
T7351/T73510/T73511) BAR PER ASM-
QQ-A-200/11 OR AMS-QQ-A-225/9 (AMS
4124) OR AMS-QQ-A-250/12 (AMS 4078)

PO Total:

\$2,715.89

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

Change Nbr: 1

Change Date: 5/02/12

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable